Wisconsin Alcohol and Other Drug Abuse Prevalence Estimates

Executive Summary

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Abstract: This document summarizes available alcohol and other drug abuse (AODA) prevalence estimation data for the state of Wisconsin and its counties. Both the estimation techniques used and the findings are presented for use by state, county, and HMO planners and policy makers to guide resource allocation decisions.

INTRODUCTION

Each year in Wisconsin there are 1,300 deaths, 6,800 traffic injuries, 8,500 traffic crashes, 2,400 substantiated cases of child abuse or neglect, 90,000 arrests, and economic costs exceeding $4.6 billion dollars, all attributed to substance abuse. Alcohol and other drug abuse (AODA) is the fourth leading cause of death in Wisconsin behind heart disease, cancer and stroke and it is the fourth leading reason for hospitalization behind mental illness, heart disease, and cancer. Wisconsin ranks first in the nation in the rate of drinkers and those who consume at least five drinks on an occasion. In light of these vast consequences, this report will provide planners and policy makers with useful information on the prevalence of alcohol and other drug abuse (i.e. those having treatment needs) among Wisconsin residents.

SURVEY ESTIMATES OF AODA IN WISCONSIN

Several studies were considered in estimating Wisconsin's AODA prevalence.

State Treatment Needs Assessment Program Telephone Survey (STNAP)

This Wisconsin survey was a component of the State Treatment Needs Assessment Program, administered by the state Bureau of Substance Abuse Services. The goal of this survey was to provide a benchmark estimate of the proportion of the state population that could be classified as "dependent" or "abusing" alcohol or other drugs according to DSM-IIIR diagnostic criteria. This estimate could be used on state block grant application forms as a measure of the need for AODA treatment in Wisconsin. The adult sample, which included an over-sample for minorities, contained 8,524 respondents.

National Household Survey on Drug Abuse (NHSDA)

The NHSDA has been conducted annually since 1971 and is an ongoing survey of the civilian, non-institutionalized population of the

United States aged 12 years and over. It has always been a face-to-face interview. The eight largest states (Wisconsin was not included) were designated as "large sample" states where sufficient samples could be surveyed to provide direct estimates of substance abuse within the state. Smaller samples were drawn in the remaining 42 states and small area estimation techniques were used to estimate substance abuse indirectly. Within each small state a stratified random sample of between 756 and 1,280 respondents was drawn and interviewed during 1999. The size of the Wisconsin sample in this survey renders it somewhat inferior to the STNAP survey.

Wisconsin Behavioral Risk Factor Survey (BRFS)

The BRFS is conducted annually by the state Department of Health and Family Services. The survey is part of the national Behavioral Risk Factor Surveillance System which is coordinated by the federal Centers for Disease Control. The BRFS is a telephone interview survey covering a stratified random sample of the adult civilian non-institutionalized population. The focus is on a broad range of self-reported health risk factors, including alcohol use, cigarette smoking, weight, diabetes, cholesterol, physical activity and diet. In 1998, the most recent year for which survey data are available, 2,205 adults aged 18 and over were interviewed. A summary of that year's data may be found in a Division of Health Care Financing report (1998).

> **Alcohol and Other Drug Abuse or Dependency**
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> While "abuse" and "dependency" have separate and unique medical definitions, for the purposes of this report, both disorders are considered treatable illnesses and are defined as follows:
>
> A maladaptive pattern of substance use leading to clinically significant impairment in physical, psychological, interpersonal, and vocational functioning.

The three above-referenced surveys were reviewed for comparability prior to the computation of the prevalence estimates.

Data in Table 1 are estimates of the rate of substance dependence from the NHSDA Wisconsin estimates and the Wisconsin STNAP survey. The reasons for their small differences have more to do with sampling variance, the questionnaire used, the mode of survey administration, and the statistical models used to compute the rates, than a real difference in actual rates of substance dependence.

Table 1: Substance Dependence Prevalence Rate Estimates from Two of the Surveys

Age Group	NHSDA (1999)	STNAP (1997)
12-17	6.4%	5.0%
18-25	12.6%	12.7%
26 and older	3.1%	5.1%
Total	4.7%	5.6%

ANNUAL PREVALENCE ESTIMATES

AODA treatment in Wisconsin is largely the responsibility of the counties with funding assistance and oversight by the State. Estimates of AODA prevalence are difficult to come by at the county level. Taking an annual survey of sufficient size to be representative is very costly. With the exception of Milwaukee County, even the STNAP survey mentioned earlier had too small a sample size to determine the AODA treatment need in every county. Some counties were represented by only a few dozen respondents which is far too small for this purpose.

A small-area estimation technique known as composite estimation is a useful alternative. This method is a composite or average of two or more estimates known to have some degree of accuracy. In this study, the composite prevalence estimate is an average of the following two estimation techniques derived from the STNAP survey.

The first method assigns to each county a projected (synthetic) treatment need estimate based on the county's age and gender

composition. From the original STNAP survey, substance dependence and abuse percentages are computed for males and females in four age groups (18-24, 25-44, 45-64 and 65 and over). These percentages are then multiplied by the number of residents in each county that fall into each of these age groupings. County population data is provided by Census Bureau projections for July, 2000.

The second method, called direct estimation, uses the STNAP survey data to estimate the number of residents in each county that are alcohol or substance dependent. This is done by either using the results from the respondents surveyed from that county, as in the case of Milwaukee County, or by logically grouping counties thereby increasing the sample to be analyzed. Counties with small populations were grouped together according to criteria provided by the state Bureau of Health Care Information. This second technique is discussed in more detail in *An Integrative Analysis and Summary* by the same authors.

The final composite estimates are simply the average for each county of the synthetic and direct estimates. This procedure yields the county and state composite prevalence estimates found in Table 2. The composite estimate has better statistical properties than either the synthetic or direct estimates alone and provides the best projection of the extent of AODA prevalence among the adult population in Wisconsin. At the time of this writing, the Census 2000 data was released for the total state population (not counties) of Wisconsin. As a result, it is likely that the prevalence figures in Table 2 are about 2 percent lower than if we had been able to use the Census 2000 data.

FUTURE DIRECTIONS

The research presented here is preliminary, however, it does point to the need for outreach and the expansion of treatment capacity in both the public and private sectors. Future reports will elaborate on the composite estimation technique. The following are of particular interest:

- Future reports will incorporate race and ethnicity into the analysis.

- An adolescent survey, which was conducted at the same time as the STNAP survey, will be used for composite estimation of adolescent treatment need.

- An alternative scheme for weighting direct and synthetic estimates will be developed.

- Census 2000 figures will be used.

- Relevant prevalence data from the NHSDA will be compared and used as it becomes available.

- The gap between met and unmet treatment need will be analyzed.

SOURCES

This report summarizes a more complete report written by K. Welch, M. Quirke and D. P. Moberg titled "Wisconsin Alcohol and Other Drug Abuse Prevalence Estimates: Final Report." The direct estimation technique is described more fully in a report entitled "The Wisconsin Needs Assessment Project: An Integrative Analysis", October 1999, by K. Welch, et. al. Readers wishing more detail may request copies from the Bureau of Substance Abuse Services at the address listed below, or from:

> University of Wisconsin
> Center for Health Policy and Program Evaluation
> 502 N. Walnut St.,
> Madison, WI 53705.

Adult Substance Abuse Prevalence Estimates: 2000

County	Adult Population	Composite Rate	Composite Estimate
Adams	14956	8.5%	1271
Ashland	12385	10.7%	1321
Barron	32082	10.0%	3213
Bayfield	11334	10.1%	1148
Brown	157997	10.5%	16550
Buffalo	10321	12.1%	1252
Burnett	10809	9.4%	1017
Calumet	26435	10.8%	2844
Chippewa	40332	10.1%	4076
Clark	23472	10.1%	2366
Columbia	36354	11.3%	4107
Crawford	12000	9.9%	1192
Dane	319740	10.4%	33290
Dodge	61538	10.6%	6541
Door	20761	10.0%	2085
Douglas	31939	10.4%	3334
Dunn	29943	11.4%	3420
Eau Claire	69896	9.1%	6359
Florence	4161	11.5%	478
Fond du Lac	70140	10.3%	7215
Forest	6661	11.2%	749
Grant	38906	10.8%	4190
Green	23097	11.2%	2597
Green Lake	14742	13.1%	1928
Iowa	15551	10.2%	1591
Iron	5171	9.8%	507
Jackson	13086	12.2%	1595
Jefferson	55043	10.7%	5901
Juneau	17607	8.9%	1559
Kenosha	104347	10.8%	11319
Kewaunee	14552	10.5%	1530
La Crosse	80074	12.9%	10337
Lafayette	11883	10.2%	1209
Langlade	15714	11.3%	1772
Lincoln	21634	11.5%	2496
Manitowoc	62949	8.8%	5533
Marathon	91447	11.0%	10084
Marinette	31890	10.1%	3237
Marquette	10802	12.8%	1380
Menominee	2760	11.8%	326
Milwaukee	734700	10.0%	73323
Monroe	28298	12.3%	3476
Oconto	24257	10.2%	2481
Oneida	26729	11.0%	2945
Outagamie	113557	10.6%	11982
Ozaukee	61974	9.8%	6077
Pepin	5262	12.0%	631
Pierce	26673	11.1%	2965
Polk	27022	10.0%	2700
Portage	51553	12.7%	6548
Price	11916	11.3%	1343
Racine	134948	8.8%	11848
Richland	13583	10.0%	1364
Rock	106953	9.6%	10304
Rusk	11527	9.9%	1141
St. Croix	40831	10.6%	4308
Sauk	38911	9.1%	3525
Sawyer	11851	11.1%	1311
Shawano	28645	10.1%	2903
Sheboygan	80500	8.0%	6408
Taylor	14237	11.8%	1681
Trempealeau	19428	12.0%	2322
Vernon	19633	9.9%	1940
Vilas	15462	9.4%	1452
Walworth	64363	10.9%	7033
Washburn	11497	9.6%	1103
Washington	86587	7.7%	6668
Waukesha	260072	8.8%	22958
Waupaca	37677	13.3%	5023
Waushara	15944	12.8%	2046
Winnebago	115069	11.6%	13371
Wood	57404	11.9%	6847
State	**3931574**	**10.2%**	**402946**

Adult Population: 2000 projections from the 1990 Census; these figures are 2 percent less than those released in Census 2000.
Composite Rate: The rate of substance abuse or dependency in the adult population using the composite estimate approach.
Composite Estimate: Estimated number of adults with substance abuse or dependency treatment needs; an average of the synthetic and direct estimation figures using the composite method discussed in this report.